

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A serviceable exhaust aftertreatment device for diesel exhaust flowing axially along an axial flowpath from upstream to downstream, comprising an inlet cylindrical body providing an inlet section, a central cylindrical body providing an exhaust aftertreatment central section, and an outlet cylindrical body providing an outlet section, said cylindrical bodies
5 being axially colinearly aligned along said axis, with said central cylindrical body axially between said inlet and outlet cylindrical bodies and removable therefrom for servicing, each of said cylindrical bodies having a main body outer profile of given outer diameter, said inlet cylindrical body mating with said central cylindrical body at a first junction, said central cylindrical body mating with said outlet cylindrical body at a second junction, each of said
10 junctions having an outer profile of increased outer diameter, the increase in outer diameter from said given outer diameter being less than 2%.

Claim 2 (original): The exhaust aftertreatment device according to claim 1 wherein said increase in outer diameter is in the range of 1 to 2%.

Claim 3 (original): The exhaust aftertreatment device according to claim 2 wherein said given outer diameter is in the range of 7 to 13 inches, and said increase in outer diameter is approximately 0.125 inch.

Claim 4 (currently amended): A serviceable exhaust aftertreatment device for exhaust flowing axially along an axial flowpath from upstream to downstream, comprising an inlet cylindrical body providing an inlet section, a central cylindrical body providing an exhaust aftertreatment central section, and an outlet cylindrical body providing an outlet section, said cylindrical bodies
5 being axially colinearly aligned along said axis, with said central cylindrical body axially between said inlet and outlet cylindrical bodies and removable therefrom for servicing, said inlet and ~~outlet~~ central cylindrical bodies being mated and sealed to each other without a gasket

therebetween, said central and outlet cylindrical bodies being mated and sealed to each other without a gasket therebetween.

Claim 5 (original): The exhaust aftertreatment device according to claim 4 wherein said inlet and central cylindrical bodies are mated and sealed to each other along an axially extending first annulus, and said central and outlet cylindrical bodies are mated and sealed to each other along a second axially extending annulus.

Claim 6 (currently amended): The exhaust aftertreatment device according to claim 5 wherein said inlet and central cylindrical bodies have first and second structurally rigidizing beads, respectively, at axially distally opposite upstream and downstream ends of said first annulus, and wherein said central and outlet cylindrical bodies have third and fourth structurally rigidizing beads, respectively, at axially distally opposite upstream and downstream ends of said second annulus, wherein said first and second beads extend annularly in a closed-loop around the entire circumference of said first annulus, and said third and fourth beads extend annularly in a closed-loop around the entire circumference of said second annulus.

Claim 7 (currently amended): A serviceable exhaust aftertreatment device for exhaust flowing axially along an axial flowpath from upstream to downstream, comprising an inlet cylindrical body providing an inlet section, a central cylindrical body providing an exhaust aftertreatment central section, and an outlet cylindrical body providing an outlet section, said cylindrical bodies being axially colinearly aligned along said axis, with said central cylindrical body axially between said inlet and outlet cylindrical bodies and removable therefrom for servicing, said inlet and central cylindrical bodies being mated to each other along a first axially extending annulus, said central and outlet cylindrical bodies being mated to each other along a second axially extending annulus, said inlet and central cylindrical bodies having first and second raised annular ribs providing first and second structurally rigidizing beads, respectively, said first and second beads being axially nonoverlapped and axially spaced by said first annulus therebetween, said central and outlet cylindrical bodies having third and fourth raised annular ribs providing third and fourth structurally rigidizing beads, respectively, said third and fourth

beads being axially nonoverlapped and axially spaced by said second annulus therebetween,
15 wherein said first and second beads extend annularly in a closed-loop around the entire
circumference of said first annulus, and said third and fourth beads extend annularly in a closed-
loop around the entire circumference of said second annulus.

Claim 8 (original): A serviceable exhaust aftertreatment device for exhaust flowing axially
along an axial flowpath from upstream to downstream, comprising an inlet cylindrical body
providing an inlet section, a central cylindrical body providing an exhaust aftertreatment central
section and an outlet cylindrical body providing an outlet section, said cylindrical bodies being
5 axially colinearly aligned along said axis, with said central cylindrical body being axially
between said inlet and outlet cylindrical bodies and removable therefrom for servicing, said inlet
cylindrical body having distally opposite upstream and downstream axial ends, said central
cylindrical body having distally opposite upstream and downstream axial ends, said outlet
cylindrical body having distally opposite upstream and downstream axial ends, said downstream
10 end of said inlet cylindrical body engaging said upstream end of said central cylindrical body in
axial sliding telescoped relation, said downstream end of said central cylindrical body engaging
said upstream end of said outlet cylindrical body in axial sliding telescoped relation, such that
said exhaust aftertreatment device is serviced by axially sliding said inlet and central cylindrical
bodies away from each other and axially sliding said central and outlet cylindrical bodies away
15 from each other.

Claim 9 (original): The exhaust aftertreatment device according to claim 8 wherein said
downstream end of said inlet cylindrical body has a beaded construction comprising a first
raised annular rib of increased radial height and a first annular flange extending axially
downstream therefrom, said upstream end of said central cylindrical body has a beaded
5 construction comprising a second raised annular rib of increased radial height and a second
annular flange extending axially upstream therefrom, said downstream end of said central
cylindrical body has a beaded construction comprising a third raised annular rib of increased
radial height and a third annular flange extending axially downstream therefrom, said upstream
end of said outlet cylindrical body has a beaded construction comprising a fourth raised annular

- 10 rib of increased radial height and a fourth annular flange extending axially upstream therefrom,
wherein said first and second annular flanges engage in axial sliding telescoped relation without
axial overlap of said first and second raised annular ribs, and said third and fourth annular
flanges engage in axial sliding telescoped relation without axial overlap of said third and fourth
annular ribs, whereby to permit servicing of said exhaust aftertreatment device by axial
15 withdrawal and insertion of said cylindrical bodies.

- Claim 10 (original): The exhaust aftertreatment device according to claim 9 wherein said inlet
cylindrical body has an axially extending sidewall having a double shoulder construction
comprising a first raised shoulder of first increased radial height and a second raised shoulder of
second increased radial height, said second raised shoulder providing said first raised annular
5 rib, said second increased radial height being greater than said first increased radial height, said
central cylindrical body has an axially extending sidewall having a double shoulder construction
at said upstream end comprising a third raised shoulder of third increased radial height and a
fourth raised shoulder of fourth increased radial height, said fourth raised shoulder providing
said second raised annular rib, said fourth increased radial height being greater than said third
10 increased radial height, said sidewall of said second cylindrical body having another double
shoulder construction at said downstream end comprising a fifth raised shoulder of fifth
increased radial height and a sixth raised shoulder of sixth increased radial height, said sixth
raised shoulder providing said third raised annular rib, said sixth increased radial height being
greater than said fifth increased radial height, said outlet cylindrical body has an axially
15 extending sidewall having a double shoulder construction comprising a seventh raised shoulder
of seventh increased radial height and an eighth raised shoulder of eighth increased radial
height, said eighth raised shoulder providing said fourth raised annular rib, said eighth increased
radial height being greater than said seventh increased radial height.

Claim 11 (original): The exhaust aftertreatment device according to claim 10 wherein said inlet
cylindrical body sidewall has inner and outer surfaces, said outer surface of said inlet cylindrical
body sidewall at said first flange has a radial height less than the radial height of said outer
surface of said inlet cylindrical body sidewall at said second shoulder and less than or equal to

5 the radial height of said outer surface of said inlet cylindrical body sidewall at said first shoulder, said central cylindrical body sidewall has inner and outer surfaces, said outer surface of said central cylindrical body sidewall at said second flange has a radial height less than the radial height of said outer surface of said central cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said outer surface of said central
10 cylindrical body sidewall at said third shoulder, said outer surface of said central cylindrical body sidewall at said third flange has a radial height less than the radial height of said outer surface of said central cylindrical body sidewall at said sixth shoulder and less than or equal to the radial height of said outer surface of said central cylindrical body sidewall at said fifth shoulder, said outlet cylindrical body sidewall has inner and outer surfaces, said outer surface of
15 said outlet cylindrical body sidewall at said fourth flange has a radial height less than the radial height of said outer surface of said outlet cylindrical body sidewall at said eighth shoulder and less than or equal to the radial height of the outer surface of said outlet cylindrical body sidewall at said seventh shoulder.

Claim 12 (original): The exhaust aftertreatment device according to claim 10 wherein said inlet cylindrical body sidewall has inner and outer surfaces, said inner surface of said inlet cylindrical body sidewall at said first flange has a radial height less than the radial height of said inner surface of said inlet cylindrical body sidewall at said second shoulder and less than or equal to
5 the radial height of said inner surface of said inlet cylindrical body sidewall at said first shoulder, said central cylindrical body sidewall has inner and outer surfaces, said inner surface of said central cylindrical body sidewall at said second flange has a radial height less than the radial height of said inner surface of said central cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said inner surface of said central
10 cylindrical body sidewall at said third shoulder, said inner surface of said central cylindrical body sidewall at said third flange has a radial height less than the radial height of said inner surface of said central cylindrical body sidewall at said sixth shoulder and less than or equal to the radial height of said inner surface of said central cylindrical body sidewall at said fifth shoulder, said outlet cylindrical body sidewall has inner and outer surfaces, said inner surface of
15 said outlet cylindrical body sidewall at said fourth flange has a radial height less than the radial

height of said inner surface of said outlet cylindrical body sidewall at said eighth shoulder and less than or equal to the radial height of said inner surface of said outlet cylindrical body sidewall at said seventh shoulder.

Claim 13 (original): The exhaust aftertreatment device according to claim 10 wherein said first, third, fifth and seventh increased radial heights are substantially equal to each other, and wherein said second, fourth, sixth and eighth increased radial heights are substantially equal to each other.

Claim 14 (currently amended): The exhaust aftertreatment device according to claim 10 wherein said inlet cylindrical body sidewall has inner and outer surfaces, said outer surface of said inlet cylindrical body sidewall at said first flange has a radial height less than the radial height of said outer surface of said inlet cylindrical body sidewall at said second shoulder and
5 less than or equal to the radial height of said outer surface of said inlet cylindrical body sidewall at said first shoulder, said central cylindrical body sidewall has inner and outer surfaces, said outer surface of said central cylindrical body sidewall at said second flange has a radial height less than the radial height of said outer surface of said central cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said outer surface of said central
10 cylindrical body sidewall at said third shoulder, said outer surface of said central cylindrical body sidewall at said third flange has a radial height less than the radial height of said outer surface of said central cylindrical body sidewall at said sixth shoulder and less than or equal to the radial height of said outer surface of said central cylindrical body sidewall at said fifth shoulder, said outlet cylindrical body sidewall has inner and outer surfaces, said outer surface of
15 said outlet cylindrical body sidewall at said fourth flange has a radial height less than the radial height of said outer surface of said outlet cylindrical body sidewall at said eighth shoulder and less than or equal to the radial height of the outer surface of said outlet cylindrical body sidewall at said seventh shoulder, said inner surface of said inlet cylindrical body sidewall at said first flange has a radial height less than the radial height of said inner surface of said inlet cylindrical
20 body sidewall at said second shoulder and less than or equal to the radial height of said inner surface of said inlet cylindrical body sidewall at said first shoulder, said inner surface of said

central cylindrical body sidewall at said second flange has a radial height less than the radial height of said inner surface of said central cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said inner surface of said central cylindrical body sidewall at said third shoulder, said inner surface of said central cylindrical body sidewall at said third flange has a radial height less than the radial height of said inner surface of said central cylindrical body sidewall at said sixth shoulder and less than or equal to the radial height of said inner surface of said ~~outlet~~ central cylindrical body sidewall at said fifth shoulder, said inner surface of said outlet cylindrical body sidewall at said fourth flange has a radial height less than the radial height of said inner surface of said outlet cylindrical body sidewall at said eighth shoulder and less than or equal to the radial height of said inner surface of said outlet cylindrical body sidewall at said seventh shoulder, the radial height of said outer surface of said sidewall of one of said first and second flanges is substantially equal to the radial height of said inner surface of said sidewall of the other of said first and second flanges, the radial height of said outer surface of said sidewall of one of said third and fourth flanges is substantially equal to the radial height of said inner surface of said sidewall of the other of said third and fourth flanges.

Claim 15 (original): The exhaust aftertreatment device according to claim 10 wherein said central section comprises a plurality of cylindrical bodies.

Claim 16 (withdrawn): A method for servicing exhaust aftertreatment device for exhaust flowing axially along an axial flowpath from upstream to downstream, said exhaust aftertreatment device having an inlet cylindrical body providing an inlet section, a central cylindrical body providing an exhaust aftertreatment central section, and an outlet cylindrical body providing an outlet section, said cylindrical bodies being axially colinearly aligned along said axis, said central cylindrical body being axially between said inlet and outlet cylindrical bodies, said method comprising axially moving said inlet and central cylindrical bodies away from each other and axially moving said central and outlet cylindrical bodies away from each other and removing said central cylindrical body, and installing a replacement central cylindrical body by axially moving said inlet cylindrical body and said replacement central cylindrical body axially towards each other and into engagement with each other in axial sliding overlapped

telescoped relation, and moving said replacement central cylindrical body and said outlet cylindrical body axially towards each other and into engagement with each other in axial sliding overlapped telescoped relation.

Claim 17 (withdrawn): The method according to claim 16 comprising structurally rigidizing said cylindrical bodies with respective raised ribbed annular beads, and comprising axially sliding said inlet cylindrical body and said replacement central cylindrical body into engagement with each other without overlap of said annular beads of said inlet cylindrical body and said replacement central cylindrical body, and axially sliding said replacement central cylindrical body and said outlet cylindrical body into engagement with each other without overlap of said annular beads of said replacement central cylindrical body and said outlet cylindrical body, such that upon the next servicing of said exhaust aftertreatment device, said inlet and central cylindrical bodies may be moved axially away from each other without axial detent interference by said annular beads of said inlet and central cylindrical bodies, and such that said central and outlet cylindrical bodies may be axially moved away from each other without axial detent interference by said annular beads of said central and outlet cylindrical bodies.

Claim 18 (original): Cylindrical bodies configured for coupling, comprising first and second cylindrical bodies axially colinearly aligned along an axis and engaging each other in axial sliding telescoped relation, said first cylindrical body having a beaded construction comprising a first raised annular rib of increased radial height and a first annular flange extending axially therefrom, said second cylindrical body having a beaded construction comprising a second raised annular rib of increased radial height and a second annular flange extending axially therefrom, said first and second annular flanges engaging in axial sliding telescoped relation without axial overlap of said first and second raised annular ribs, said first cylindrical body having an axially extending sidewall having a double shoulder construction comprising a first raised shoulder of first increased radial height and a second raised shoulder of second increased radial height, said second raised shoulder providing said first raised annular rib, said second increased radial height being greater than said first increased radial height, said second cylindrical body having an axially extending sidewall having a double shoulder construction

15 comprising a third raised shoulder of third increased radial height and a fourth raised shoulder of fourth increased radial height, said fourth raised shoulder providing said second raised annular rib, said fourth increased radial height being greater than said third increased radial height.

Claim 19 (original): The cylindrical bodies according to claim 18 wherein said first cylindrical body sidewall has inner and outer surfaces, said outer surface of said first cylindrical body sidewall at said first flange has a radial height less than the radial height of said outer surface of said first cylindrical body sidewall at said second shoulder and less than or equal to the radial
5 height of said outer surface of said first cylindrical body sidewall at said first shoulder, said second cylindrical body sidewall has inner and outer surfaces, said outer surface of said second cylindrical body sidewall at said second flange has a radial height less than the radial height of said outer surface of said second cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said outer surface of said second cylindrical body sidewall at said
10 third shoulder.

Claim 20 (original): The cylindrical bodies according to claim 18 wherein said first cylindrical body sidewall has inner and outer surfaces, said inner surface of said first cylindrical body sidewall at said first flange has a radial height less than the radial height of said inner surface of said first cylindrical body sidewall at said second shoulder and less than or equal to the radial
5 height of said inner surface of said first cylindrical body sidewall at said first shoulder, said second cylindrical body sidewall has inner and outer surfaces, said inner surface of said second cylindrical body sidewall at said second flange has a radial height less than the radial height of said inner surface of said second cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said inner surface of said second cylindrical body sidewall at said
10 third shoulder.

Claim 21 (original): The cylindrical bodies according to claim 18 wherein said first and third increased radial heights are substantially equal to each other, and said second and fourth increased radial heights are substantially equal to each other.

Claim 22 (original): The cylindrical bodies according to claim 18 wherein said first cylindrical body sidewall has inner and outer surfaces, said outer surface of said first cylindrical body sidewall at said first flange has a radial height less than the radial height of said outer surface of said first cylindrical body sidewall at said second shoulder and less than or equal to the radial height of said outer surface of said first cylindrical body sidewall at said first shoulder, said second cylindrical body sidewall has inner and outer surfaces, said outer surface of said second cylindrical body sidewall at said second flange has a radial height less than the radial height of said outer surface of said second cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said outer surface of said second cylindrical body sidewall at said third shoulder, said inner surface of said first cylindrical body sidewall at said first flange has a radial height less than the radial height of said inner surface of said first cylindrical body sidewall at said second shoulder and less than or equal to the radial height of said inner surface of said first cylindrical body sidewall at said first shoulder, said inner surface of said second cylindrical body sidewall at said second flange has a radial height less than the radial height of said inner surface of said second cylindrical body sidewall at said fourth shoulder and less than or equal to the radial height of said inner surface of said second cylindrical body sidewall at said third shoulder, wherein the radial height of said outer surface of said sidewall of one of said first and second flanges is substantially equal to the radial height of the inner surface of said sidewall of the other of said first and second flanges.